



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,143	01/14/2002	Gang Huang	HUANG 14-13-7	6844

7590 08/24/2006

MANELLI DENISON & SELTER PLLC  
7th Floor  
2000 M Street, N.W.  
Washington, DC 20036-3307

EXAMINER

REILLY, SEAN M

ART UNIT PAPER NUMBER

2153

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/043,143

Applicant(s)

HUANG ET AL.

Examiner

Sean Reilly

Art Unit

2153

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 June 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7, 8, 15, 16, 23 and 24 is/are allowed.
- 6) ☒ Claim(s) 1-6, 9-14, 17-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This Office action is in response to Applicant's amendment and request for reconsideration filed on June 12, 2006. Claims 1-24 are presented for further examination. All independent claims have been amended. This Application is made NON-FINAL since the claim amendments did not necessitate the new grounds of rejection. Applicant has overcome the outstanding 112 first paragraph rejection by removing all claims language for determining a calibration value.

#### ***Response to Arguments***

Applicant's arguments are moot in view of the new grounds of rejection set forth.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**4. Claims 2, 5, 10, 13, 18, and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

With regard to claims 2, 5, 10, 13, 18, and 21, "said calibration value" lacks antecedent basis in each of these claims.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. **Claims 1-2, 4, 6, 9-10, 12, 14, and 17-18, 20, 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Sweitzer et al. (U.S. Patent Number 6,570,915; hereinafter Sweitzer).**
2. Regarding claims 1 and 9, Sweitzer disclosed a self calibrating network comprising: a first node (e.g. DTU-C or DTU-R) to transmit a test signal (probe signal); and a second node (e.g. DTU-C or DTU-R) to receive said test signal and to adjust a second node transceiver to optimize the transfer of data between said first node to said second node, said adjustment of said second node transceiver being based on at least one of available criteria comprising a noise measurement value (“signal-to-noise ratio”), a propagation delay value, and a bit rate error value (“bit-error-rate”) (Col 3, lines 17-40).
3. With regard to claim 2, Sweitzer disclosed storing the calibration value in memory (i.e. the transceiver is configured).
4. Regarding claim 4, Sweitzer disclosed said second node repeatedly accepts copies of said test signal from said first node until the transfer of data from said first node to said second node is optimized (Col 3, lines 41-47).
5. Regarding claim 6, Sweitzer disclosed said first node repeatedly transmits a calibration data packet until said second node acknowledges an optimal calibration value has been determined (Col 3, lines 41-47).

Art Unit: 2153

6. Regarding claims 9-10, 12, 14, 17-18, 20, and 22, the limitations of these claims are similarly drawn to the limitations of claims 1, 2, 4, and 6. Thus, a similar rationale is used for rejecting these claims.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**7. Claims 1, 3-4, 6, 9, 11-12, 14, 17, 19-20, and 22 are rejected under 35 U.S.C. 102(e) as being as being unpatentable over Schober et al. (U.S. Patent Number 6,493,320; hereinafter Schober) and Ang (U.S. Patent Number 6,424,630).**

8. Regarding claims 1 and 9, Schober discloses a self calibrating network comprising: a first node (for example Figure 1, Routers 105a or 105b between link 110a) to transmit a test signal (any packet sent while tuning; e.g. a test pattern); and a second node (for example Figure 1, Routers 105a or 105b) to receive said test signal and to adjust (Figure 7, Component 600) a a second node transceiver to optimize the transfer of data (frequency, power level) between said first node to said second node (reliable transfer at the fastest possible speed and lowest possible power level, Col 2 lines 32-42), said adjustment of said second node transceiver being based on least one of available criteria (e.g. timing of signal transitions Col 2, lines 66-67). B

However Schober failed to specifically recite said adjustment of said second node transceiver being based on a noise measurement value. In analogous network optimization system, Ang disclosed optimizing network transceivers based on a noise measurement value of a test signal (comparison signal) in order to provide an optimum configuration for processing network signals (Col 2, lines 46-64). Ang further disclosed that such an optimization scheme minimizes errors due to process variations during manufacturing (Col 2, lines 14-17). Thus, it would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to optimize network transceivers based on a noise measurement within the Schober's system, in order to minimize errors due to process variations during manufacturing and thus provide a more reliable system (Ang Col 2, lines 14-17).

9. Regarding claim 3, Schober discloses said calibration data packet contains a node identification (chip id and port number) associated with said first node (transferred during master slave configuration for tuning, Col 7, lines 50-55).

10. Regarding claim 4, Schober discloses said second node repeatedly accepts copies of said calibration data packet from said first node until the transfer of data from said first node to said second node is optimized (multiple packets transmitted for each component to be tuned during tuning algorithm 600, for instance Link Exercise 714, Col 16, lines 16-37).

11. Regarding claim 6, Schober discloses said first node repeatedly transmits a calibration data packet until said second node acknowledges an optimal calibration value has been determined (multiple packets transmitted for each component to be tuned during tuning algorithm 600, for instance Link Exercise 714, Col 16, lines 16-37).

Art Unit: 2153

12. Regarding claims 9, 11-12, 14, 17, 19-20, and 22, the limitations of claim groups 9, 11-12, 14, and 17, 19-20, 22 are similarly drawn to the limitations of claims 1, 3-4, and 6, respectfully. Thus, a similar rationale is used for rejecting the claims with the exemplarily tuning system of figure 2a or 2b providing the *means for* executing the functionality mapped in claims 1-6.

**13. Claims 2, 5, 10, 13, 18, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schober et al. (U.S. Patent Number 6,493,320; hereinafter Schober) and Ang (U.S. Patent Number 6,424,630) and the knowledge of one of ordinary skill in the art at the time of invention.**

14. Regarding claims 2, 5, 10, 13, 18, and 21, Schober discloses said second node stores said calibration value in a memory, each link connected to a router has its own tuning system, e.g. tuning system 200b of router 105b for link 110a, which stores the optimized configuration for transferring data on that *link* after the tuning algorithm of figure 7 has successfully completed. While Schober discloses storing the calibration value in memory Schober fails to disclose storing the calibration value in a specific *calibration* memory however, the Examiner takes official notice that it was well known in the art at the time of the invention to centrally store data in memory with a corresponding identification. It would have been obvious to one of ordinary skill in the art at the time of the invention to store the calibration values for each tuning system within a router at a single memory location with an associated node identification (such as a chip id and port number, Col 7, lines 50-55), in order to have a central location for maintaining all calibration values used within a given router.

*Allowable Subject Matter*

15. Claims 7-8, 15-16, and 23-24 are allowed.

*Conclusion*

16. The prior art made of record, in PTO-892 form, and not relied upon is considered pertinent to applicant's disclosure.

17. This office action is made **NON-FINAL**.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Reilly whose telephone number is 571-272-4228. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 15, 2006

JOHN FOLLANSBEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100